

Filming Science Syllabus
Version 15 (February 8, 2024)
<https://canvas.harvard.edu/courses/126091>

Filming Science

HISTSCI 1520 | 2024 Spring Term

Admission to the course is by interview with its instructors. See Canvas Site.

Instructors: Prof. Peter Galison & Prof. Robb Moss

Teaching Assistant: Cecilia Caraballo

Time: Tuesdays & Thursdays, 9AM–11:45AM

Location: Film Study Center (Sever Hall, Room 416)

Course Description: Examination of the theory and practice of capturing scientific practice on film. Topics will include fictional, documentary, informational, and instructional films and raise problems emerging from film theory, visual anthropology and science studies. Each student will make and edit short film(s) about laboratory, field, or theoretical scientific work.

Enrollment: Enrollment by permission of the instructor, open to both undergraduate and graduate students from all departments. Interviews will be held during Prior Term Registration.

Grading/Requirements: Assignments 50%, Class participation 50%. This is a demanding course with weekly screenings, readings and filmmaking assignments. Each week two respondents will be chosen to begin our discussions on the reading.

All films screened and other relevant work will be available on DVD in the Film Studies Library, Sever 4th fl.

Film Screenings (in class)

All That Breathes. 2022, 97 minutes. Dir. Shaunak Sen.

Containment. 2015, 80 minutes. Dirs. Peter Galison & Robb Moss.

The Day After Trinity. 1981, 88 minutes. Dir. John Else.

De Humani Corporis Fabrica. 2022, 118 minutes. Dirs. Lucien Castaing-Taylor & Verena Paravel.

“Dream of a Shadow”. 2023, 21 minutes. Dir. Peter Galison.

The Edge of All We Know. 2020, 99 minutes. Dir. Peter Galison.

Fathom. 2021, 86 minutes. Dir. Drew Xanthopoulos.

Fire of Love. 2022, 98 minutes. Dir. Sara Dosa.

Geographies of Solitude. 2022, 103 minutes. Dir. Jacquelyn Mills.

“Listen to the Beat of our Images.” [“Écoutez le battement de nos images.”] 2021, 16 minutes. Dirs. Audrey Jean-Baptiste & Maxime Jean-Baptiste.

“Looking Forward.” 2023, 12 minutes. Dir. Steven Ascher.

Primate. 1974, 105 minutes. Dir. Frederick Wiseman.

“Shattering Stars.” 2021, 13 minutes. Dir. Peter Galison.

Reading List

American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer. Kai Bird and Martin J. Sherwin. New York: A.A. Knopf, 2005. 721 pp.

Broken Hearts: The Tangled History of Cardiac Care. David S. Jones. Baltimore, Md.: Johns Hopkins University Press, 2013. 336 pp.

“Cutting.” Mary Lampson. n.d.

The Great Derangement: Climate Change and the Unthinkable. Amitav Ghosh. Chicago: The University of Chicago Press, 2016. 176 pp.

Ground Control: A Design History of Technicals Lands and NASA’s Space Complex. Jeffrey S. Nesbit. New York: Routledge, 2024. 208 pp.

“How Do You Photograph a Black Hole?” Peter Galison. *MoMA Magazine*, May 17, 2021. <https://www.moma.org/magazine/articles/563>.

“The Interstitium.” Radiolab. <https://www.radiolab.org/podcast/interstitium>.

Primate Visions: Gender, Race, and Nature in the World of Modern Science. Donna Haraway. New York: Routledge, 1989. 498 pp.

Space in the Tropics: From Convicts to Rockets in French Guiana. Peter Redfield. Berkeley: University of California Press, 2000. 350 pp.

The Sounding of the Whale: Science & Cetaceans in the Twentieth Century. D. Graham Burnett. Chicago: University of Chicago Press, 2012. 824 pp.

“The Trouble with Wilderness; Or, Getting Back to the Wrong Nature.” William Cronon. *Environmental History* 1, no. 1 (1996): pp 7–28.

“Visual STS.” Peter Galison. In *Visualization in the Age of Computerization*, edited by Annamaria Carusi, Aud Sissel Hoel, Timothy Webmoor, and Steve Woolgar. Routledge Studies in Science, Technology, and Society 26. New York: Routledge, Taylor & Francis Group, 2015.

“Waste-Wilderness: A Conversation with Peter L. Galison.” Interview by Jamie Kruse, March 31, 2011. <https://fopnews.wordpress.com/2011/03/31/galison/>.

Assignments

Editing Pre-Assignment

Edit a pre-shot scientific process on the computer. From approximately 60 minutes of "rushes," students are to edit a 1–3-minute sequence. The assignment is designed to introduce you to the fundamentals of editing. The pre-shot material will be taken from a scientific setting that has been recorded either in a Harvard laboratory or during field work (footage will be provided by the instructors).

DUE: Thursday, February 1

Filmmaking Assignment #1: Looking Closely

Shoot and edit a sequence. Students will shoot a sequence in a laboratory or fieldwork setting that captures some aspect of daily scientific practice-but the choice of emphasis will be up to the student. This assignment emphasizes basic camera operation and the ability to turn the world into individual shots that then can be edited. 2-3 min.

DUE: Thursday, February 22

Filmmaking Assignment #2: Add interview material to Assignment #1

Add sound to help shape the material you filmed. This could be interview material, personal voice-over or other sounds.

DUE: Thursday, March 7

Filmmaking Assignment #3: Finishing

Your third assignment is to continue to add, clarify, or re-contextualize the work you have done on Project #2. You may add anything that deepens our understanding of filmed scientific practice. Your finished piece should stand on its own as a short film. (No longer than) 8 minutes.

ROUGH CUT DUE: APRIL 18

FINAL SCREENING: Thursday, April 25

Participation

Attendance and participation in class is essential. Students are expected to come to each class prepared to discuss the assigned readings. On days where we review students' work, we will be respectful and considerate when giving feedback. This includes being constructive with one's criticism, offering solutions along with critique. Responding to both the strengths and weaknesses of work is more useful than only discussing a film's problems. Engaging with each other's work is an important component of the class.

Class Meetings

The course meets twice a week during the spring semester, with a break during the Spring Recess. Our classroom is located in room 416, on the top floor of Sever Hall.

We will sometimes meet in the Carpenter Center ('CCVA Auditorium' on the syllabus) when screening feature-length films. These films will be discussed along with the assigned readings.

Canvas Website

The course has a Canvas website accessible at this link:

<https://canvas.harvard.edu/courses/126091>.

Students can find details about assignments and submit their work through the Assignments tab. Readings are accessible through the Library Reserves tab. Additional helpful resources can be found in the Files tab.

Software

We will work with Adobe Premiere Pro. Harvard provides students with licenses to download this software. A link can be found on the course website.

Guidance

Academic Integrity and Collaboration

Discussion and the exchange of ideas are essential to academic work. For assignments in this course, you are encouraged to consult with your classmates on the choice of paper topics and to share sources. You may find it useful to discuss your chosen topic with your peers, particularly if you are working on the same topic as a classmate. However, you should ensure that any written work you submit for evaluation is the result of your own research and writing and that it reflects your own approach to the topic. You must also adhere to standard citation practices in this discipline and properly cite any books, articles, websites, lectures, etc. that have helped you with your work. If you received any help with your writing (feedback on drafts, etc.), you must also acknowledge this assistance.

University Policies and Regulations

We uphold University policies and regulations on the observation of religious holidays, sexual harassment, racial or ethnic discrimination, and assistance available to students with disability issues. Any students requiring special accommodations should let the instructor know as soon as possible. We also uphold University policy with respect to cases of plagiarism. Students should make themselves familiar with the respective University regulations and are encouraged to bring any questions or concerns to the attention of the course instructors or section leaders.

Course Etiquette and Technology Policy

Please come to class with access to the readings, either via paper copies, or laptop, or tablet. (Not smart phones.) But note that there are hazards to having access to one's laptop during class, since most of us (the instructors included) can have a hard time avoiding checking email or doing other non-relevant things, such as shopping, following twitter feeds, planning parties, and so on. That is, there is to be no ambient computing. This is detrimental to a seminar like this and thus you absolutely should avoid doing it.

Schedule

PART 1: INTRODUCTION TO FILMING SCIENCE

WEEK 1 JANUARY 23 & 25

Tuesday – Sever 416




Screening: “Looking Forward”

Review syllabus

Thursday – Sever 416

Introduction to nonlinear editing

For next week

-  Read: *Primate Visions* chapters 1, 3 and 6
-  Scout Possible location to film first assignment. (Practicum)
-  **Due:** Editing Pre-assignment

WEEK 2 JANUARY 30 & FEBRUARY 1

Tuesday – CCVA Auditorium

Screening: *Primate*


Discuss: *Primate Visions*

Thursday – Sever 416

Discussion: Possible Locations for Project 1.

Screening: Nonlinear editing sequence due & screened.

For next week

-  Continue scouting locations
-  Read: “Cutting”

WEEK 3: EDITING
FEBRUARY 6 & 8

Tuesday – CCVA Auditorium




Screening: *Fire of Love*

Discuss: “Cutting”

Thursday – Sever 416

Camera Basics

For next week

-  Read: *Space in the Tropics* chapter 5
-  Read: *Ground Control*
-  Obtain permission to shoot (Practicum)

WEEK 4: SHORTS
FEBRUARY 13 & 15

Tuesday – Sever 416




Screening: “Listen to the Beat of
Our Images”
+ additional short films

Discuss: *Space in the Tropics* and
Ground Control

Thursday – Sever 416

Rushes/Rough Cuts Due

For next week

-  Read: “Waste-Wilderness”
-  Read: “The Trouble with Wilderness”
-  **Due:** Filmmaking Assignment #1

PART 2: NUCLEAR/ENVIRONMENTAL

WEEK 5
FEBRUARY 20 & 22

Tuesday – CCVA Auditorium

Screening: *Containment*

Discussion: “Waste-Wilderness”
& “The Trouble with Wilderness”

Thursday – Sever 416

Assignment #1 due and screened

For next week

 Listen: “The Interstitium”

WEEK 6
FEBRUARY 27 & 29

Tuesday – CCVA Auditorium

Screening: *Geographies of Solitude*

Discussion: “The Interstitium”

Thursday – Sever 416

Audio Recording and Sound
Editing

For next week

 Read: *American Prometheus* Part 3 and Part 5

 **Due:** Filmmaking Assignment #2

WEEK 7
MARCH 5 & 7

Tuesday – CCVA Auditorium
Screening: *The Day After Trinity*
Discuss: *American Prometheus*

Thursday – Sever 416
Assignment #2 (Interview material, personal voice-over) due and screened.

For next week

 Read: *The Great Derangement*

WEEK 8: SPRING RECESS — MARCH 12 & 14

WEEK 9
MARCH 19 & 21

Tuesday – CCVA Auditorium
Screening: *All That Breathes*
Discuss: *The Great Derangement*

Thursday – Sever 416
Guest Filmmaker: Alexis Gambis

For next week

 Read: *Broken Hearts*

PART 3: BODY/DEPTHS

WEEK 10
MARCH 26 & 28

Tuesday – CCVA Auditorium
Screening: *De Humani Corporis Fabrica*

Thursday – Sever 416
Non-linear Editing Review and Q&A

Discuss: *Broken Hearts*

For next week

 Read: *The Sounding of the Whale*

WEEK 11
APRIL 2 & 4

Tuesday – CCVA Auditorium

Screening: *Fathom*

Discuss: *The Sounding of the Whale*

Thursday – Sever 416

Rough Cut due

For next week

 Read: “Visual STS”

 Read: “How to Photograph a Black Hole”

WEEK 12
APRIL 9 & 11

Tuesday – CCVA Auditorium

Screening: *Edge of All We Know*;
“Shattering Stars”; “Dream of a Shadow”

Discuss: “Visual STS” & “How to Photograph a Black Hole”

Thursday – Sever 416

Final Cut due

For next week

 **Due:** Filmmaking Assignment #3

PART 4: STUDENT PROJECTS

WEEK 13 APRIL 16 & 18
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Tuesday – Sever 416

Thursday

Final Due Date to submit work

For next week

 **TBD**

WEEK 14 APRIL 23 & 25
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Tuesday – Sever 416

Thursday

Last Day of Class.

FVS Screenings

